and, alongside an old stone wall, the racy black snake.

We reached a point in our tour where even William Torrey's durable Plymouth could not go because of the spring thaws. So we walked on over to the "Parade Ground." It has been plowed recently. The young seminarians from Ireland, learning to be missionaries at the nearby Queen of Peace Seminary, are growing potatoes there. In return for this community benefit, the Greenes and Torreys have willing workers when trails need clearing or shrubs need planting.

As an addition to his January 20, 1966, news story published in the *Monadnock*

Ledger, Norman Torrey described the quick response of wildlife to the building of the pond, marsh, and adjoining lands.

"To the west of the pond," he noted, "lie a few large fields and several hundred acres of wilderness, an ideal area for recreation and for wildlife conservation. Beavers, muskrats, mink, and an occasional otter have taken over the pond, along with black and wood ducks, blue herons, occasional egrets, bittern, kingfishers, woodcock and snipe, pheasant, grouse, and numerous other birds. . . . The marsh is thus a boon not only to the Greene heirs, but to the whole community." I think he has a point.

Fields and Ponds for Wild Ducks

WILLIAM W. NEELY



YOU CAN HAVE a place to hunt wild ducks—on your own land or by forming a hunting group and leasing some land.

If you own land which can be managed for ducks, not only can you have hunting for yourself and your friends, but you can also get income through the sale of shooting privileges.

But whether you own or lease land, techniques to attract ducks are the same.

In some sections of our country, the wild ducks will come into dry crop fields to feed. But since there is lots of cropland, you can't count on them coming to yours. The surest way of having ducks come to your land every year is to provide their food in the feeding condition they like best—in water. This is true anywhere.

You can provide the combination of food and water for ducks in several ways. One is to construct and manage a "duck-

pond." Another way is to impound water for only a part of the time.

A duckpond is a permanent impoundment. The water depth varies from a few inches on the edges to perhaps 6 feet or more in the deepest places. The duck foods that you grow are aquatic plants—the kinds of plants which live in water.

One good example is sago potamogeton (*Potamogeton pectinatus*). Many kinds of ducks like both the seeds and the vegetative parts of this plant. Sago will grow anywhere you have a pond with "hard" water, alkaline water, or water which is a little salty.

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If your pond water has low mineral content ("soft" water), you cannot grow sago potamogeton. However, it is likely you can grow either northern or southern naiad (Najas flexilis in the Northern States or Najas guadalupensis in the Southern States). These naiads grow similarly to sago potamogeton, but they are not quite as attractive food for ducks.

If your pond water is mildly acid or it has an organic stain so that you cannot grow either sago or naiad, then watershield (Brasenia schreberi) may be your best possibility for growing duck food. The seeds of this plant are particularly

attractive to ring-necked ducks.

For brackish water ponds, widgeongrass (Ruppia maritima) provides a choice duck food which is easy to grow.

See chapter starting on page 141.

You can produce even more choice and attractive food for ducks in a duck "field" than you can in a pond. A duck field is an area kept dry to cultivate crops for duck food and then flooded during the fall and winter to make the crops available to ducks. Since all of the water in a duck field is shallow, it is more frequently used by the species which most hunters prefer-the mallard, pintail, and black ducks.

A duck field requires some flatland that can be enclosed with a dike. If it is wet land, enough drainage must be established to grow the kind of duck food planned. A reliable source of water for

flooding is necessary.

One instance is a flat area below a farm pond. Usually only a low dike is necessary. Install a pipe through the dike and a gate for water control and a ditch for drainage, if needed. Plant the field to a crop suited to the soil and climate and which is a choice duck food. For example, it might be browntop millet (Panicum ramosum).

In the fall, draw enough water from the pond to shallowly flood the field. Since gravity flow can be used, this is easy to do. About 6 to 12 inches is a good depth for flooding. If the flooding is over 18 inches deep, the field will lose part of its attractiveness to ducks that 'tip" to feed, like mallards and pintails.

The same principles apply to duck



Golden retriever brings in a blue wing teal in field of flooded browntop millet. Rice Hope Plantation, Georgetown, S.C.

fields in other locations. You may have a flat crop field suited to growing corn that you can enclose with a dike to form a duck field. From experiences all over the country, this technique has proven to be highly successful in providing good duck hunting.

In most fields where corn will grow, you will have to pump in the water for flooding. This is not hard to do with the same kind of equipment which the farmer

uses for irrigation.

If the land you plan to use for a duck field is too wet for cultivation and can't be properly drained, there are still some good duck foods which you can grow. One is Japanese millet (Echinochloa crus-

galli and its varieties).

To grow this kind of millet, keep the field flooded until early summer to retard the growth of weeds and grass. Then let the water off the field and immediately broadcast Japanese millet seed on the wet soil. The seeds germinate rapidly without land preparation. Shallowly flood the field during the fall and winter in order to make the crop available to ducks.

In a similar way you can grow Japanese

millet around the edges of a farm pond for duck food. Lower the water level in the pond several feet in early July. Broadcast millet seed on the portions of the pond bottom exposed by the drawdown. Allow the pond to refill during the fall when the millet matures.

Smartweeds are native plants that you probably already have growing on your wetland field. The seeds are choice duck food. You can manage a smartweed field for ducks. In early spring, drain the field dry enough to burn the previous year's accumulation of plant debris. During the spring and summer allow livestock to moderately graze the field. Livestock will not eat the smartweeds because of the peppery taste, but will graze most other plants. With little competition, smartweeds grow vigorously and make a good seed yield. Flood the field in fall.

Where To Get Help

Other ways to manage duck fields and ponds are described in USDA Farmers' Bulletin 2218, listed at the end of this chapter. You can get help from your local soil conservation district or Soil Conservation Service office for planning and designing either a duck field or pond.

If you are interested in having a reliable income from your duck field or pond, you should try to provide the best hunting possible. Duck hunters will pay well for good shooting. As much as \$25 a person for a single morning's hunt is not unusual. Fee hunting for ducks is common throughout the United States. With the increasing demand for outdoor recreation, more places to hunt will be needed.

There are three ways normally used for "selling" duck hunting. One is by a charge for each hunt. In return for a fee, the hunter is furnished a blind—and perhaps a guide and a dog for retrieving—for a day or part of a day's shooting. This is often done in the large irrigation reservoirs in Arkansas and in ricefields flooded after the harvest. It is probably the most profitable way of selling duck hunting today.

If you have hunted this way, you have likely seen that it has some drawbacks. One is that it takes a lot of the operator's time. Another is in dealing with the hunters. Most are strangers to each other. Some are experts, while some are on their first hunting trip. To the chagrin of the experienced hunters, the beginners are apt to blast away at ducks out of range and frighten off the flocks.

There is another way of selling hunting which you might rather use. This is to lease out your field or pond to a club or group of hunters for the entire hunting season. The facilities and the services you provide may be elaborate or simple.

Your lease should stipulate how often there will be any hunting (say, twice a week), that there will be morning shooting only, and the hunters must be out of the blinds by noon. This will protect your field from overshooting so that ducks will come back each year. Other than this, the club or group makes its own bylaws and rules and resolves hunter difficulties among the members.

If you are looking for a place to hunt, a third way may work best for you. Form your own hunter group among friends or business associates. Lease some suitable land and develop a duck field or pond yourselves. The shared cost can be reasonable. There are plenty of sites over much of the country. Many owners of these sites will be agreeable as they get a development which increases the value of their land without any cost to them, plus the income from your lease.

To help your duck field contribute to the overall welfare of our waterfowl, keep it flooded after the hunting season is over. The birds need your food and protection until they leave for their nesting grounds. It's good business for you too—many of the ducks will return to the same spot next fall.

ne same spot next fall Good hunting!

For further reading:

Neely, William W., and Davison, Verne E., Wild Ducks on Farmland in the South. Farmers' Bulletin 2218, U.S. Department of Agriculture, Washington, D.C. 20250, 1966.